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## OCCUPATIONAL HEALTH FOR HEALTH CARE WORKERS IN COVID-19 ERA

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Current global crisis due to Corona virus has brought the Health Care community and its work related problems into focus. Globally there are more than 14 million confirmed cases and more than 6lac deaths (WHO) while India has crossed 1 million cases and 25000+ deaths at the time of writing this article and the numbers are increasing very rapidly.

While the Prime minister of India has rightly lauded their contribution, the occupational health problems of healthcare workers have traditionally been neglected not only by the authorities but also by the doctors themselves. They are the most vulnerable group on whose health the Covid control strategy rests.

Doctors are expected to live longer as they know more about how to stay fit and healthy and address the medical conditions ahead of time. Despite this, the possibility of heart diseases and cancer among doctors is swiftly rising. Also, the emerging trend of doctors committing suicide—which was hitherto uncommon—is a matter of grave concern. This shocking revelation was made in an article published in the International Business Times (2019) which stated that the life expectancy of doctors in India to be lower than the average Indian by more than 10 years.

### Who are the Health Care Workers?

Scope of the term Health care workers is quite comprehensive and should include all stake holders in the health care set up depending on the size and complexity of the health care set up. They include Doctors, Dentist, Nurses, Medical assistants, Lab technicians, Pharmacist, Radiology technicians, Physiotherapists, Housekeeping staff & Patient care staff such as Ayah and Ward boys. Large hospitals also have Food handlers, Laundry workers and Maintenance staff.

### What are the hazards for healthcare workers?

Major hazards in health care include Blood borne pathogens and biological hazards, Potential chemical and drug exposures, Respiratory hazards, Ergonomic hazards from lifting and repetitive tasks. Shiftwork and Mental stress are important hazards for health care workers across the world.

There is some, though not sufficient, attention on hazards in Clinical, Surgical, Laboratory and Radiology areas in the large hospitals but hazards associated with other areas such as Physiotherapy, CSSD, Maintenance, Housekeeping, Laundry and Food Handlers and those involved in medical waste disposal also deserve proper attention.

Situation in India is no better though. The data on the morbidity and mortality experienced by Healthcare workers in India is lacking as reliable statistics are not available in the country. Even large teaching hospitals and medical colleges do not have occupational health department for hospital staff. Hospitals are also not required to collect and report data on hospital acquired infections in its staff. There is no specific legal requirement for comprehensive occupational health services in hospitals and healthcare in our country. Even the medical community and unions have seldom made demands for protecting their health and safety except for protection from violence in recent years. Workplace violence has emerged as an important threat in healthcare over last few years. Though agitation by the doctors forced the Government to enact a nationwide law, it has failed to significantly change the situation on the ground so far.

### COVID19 & Healthcare Workers

In current times the problem has become very concerning. In most published reports, healthcare workers represent 5-15% of infected persons. Worldwide, more than 600 nurses have died from COVID-19 according to an announcement on 3<sup>rd</sup> June 2020 by the International Council of Nurses. Globally, more than 450,000 healthcare workers may have contracted COVID-19. According to data collected by Amnesty International as of 5 July 2020, over 3000 health workers have died from COVID-19 and related causes in 79 countries around the world.

In China, the average attack rate in local healthcare workers was 144.7 per million – compared to 41.7 per million in general population. 1 out of 6 has a severe disease or is classified as critical. South China morning Post reported that 500 healthcare workers were confirmed as COVID 19 positive and another 600 were suspected (11.02.2020). NHCPRC reported that up until February 24<sup>th</sup>, 2055 healthcare workers had been confirmed infected with COVID-19, with 22 deaths in China.

In Italy more than 17 thousand healthcare workers have been infected and there have been more than 100 deaths. In Spain, 10% of diagnosed COVID 19 cases are doctors or nurses (on 25.03.2020). Centers for Disease Control (CDC) has reported about 75000 cases of COVID 19 among US healthcare workers along with 410 deaths as on 12<sup>th</sup> June 2020 and feels that it may an underestimate as data is not available for all cases. “Lost on the Frontline,” a collaboration between KHN and The Guardian, has identified 586 healthcare workers who likely died of COVID-19 after helping patients during the pandemic as on 11<sup>th</sup> June 2020.



Indian Medical Association has informed on 15<sup>th</sup> July 2020 that in India 1302 doctors have been infected with Covid 19 while 99 doctors have succumbed to death. Hindustan Times reported on 6<sup>th</sup> May 2020 that Coronavirus has infected around 548 doctors, nurses and paramedics across the country. According to a report in The New Indian Express published on 3rd June 2020, 479 healthcare workers from All India Institute of Medical Sciences (AIIMS) Delhi have tested positive for COVID-19 including faculty, residents, nursing staffs, attendants, sanitation and security staffs. A report published in Deccan Chronicle on 5th June 2020 reported 48 doctors and postgraduate students as COVID 19 positive in Hyderabad.

In a recent study of 4,357 HCWs in Wuhan, the main concerns reported by health workers were: infection of colleagues (72.5%), infection of family members (63.9%), protective measures (52.3%) and medical violence (48.5%). And 39.1% of the HCWs had psychological distress, participating in frontline treatments were isolated and having family members or colleagues infected.

There are numerous reports in the Indian social media about the stress being experienced by frontline health care workers fighting the COVID epidemic. Shortage of medical manpower resulting in overwork, lack of sufficient rest period and even weekly holidays have been reported widely. There are also reports of shortage of support staff leading to further stress on resident doctors.

Shortages of Personal Protective Equipment (PPE) for health and essential workers were reported in almost all of the 63 countries and territories from which Amnesty International collected information. Severe shortages of Personal Protective Equipment have been reported across India. In the initial stages of the epidemic, most of the PPEs were imported which affected their availability. However, indigenous manufacturing of PPEs has since picked up and the situation is expected to ease.

#### How to prevent the hazards?

Prevention occupational health problems in healthcare lies in Universal Precautions. The risk of infection increased due to lack of sufficient PPE and inadequate training further amplified the risk of infection for healthcare workers. Proper PPE (Personal Protective Equipment) plays most important role in protecting health care workers. Training & Education of healthcare workers and extensive medical surveillance are very crucial. Long-time exposure to large numbers of infected patients directly increases the risk of infection. Also, pressure of treatment, work intensity, and lack of rest indirectly increases the probability of infection. It is essential to identify, monitor & control exposures of health care workers and also offer them preventive Immunizations on priority as and when available eg for Hepatitis B.

Stress Management has a major and important role considering the enormous stress to which health care workers are exposed.

Dealing with life and death and round the clock work are the hallmark of health care work and both are stress generators. The development and implementation of mental health assessment, support, treatment, and services are crucial and pressing goals for the health response to the 2019-nCoV outbreak. Videos coming out of Chinese and Italian hospitals are graphically showing how much more stressed the health workers can be in this overwhelming pandemic.

Workplace Violence has become a grim reality in health care sector and needs to be tackled on priority. While inclusion of soft skills especially Communication in the curriculum of doctors and nurses will go a long way, legislative measures and state support to medical community is important.

On 16 April 2020, WHO published interim guidance that provides advice on adjusting Public health and social measures (PHSM), while managing the risk of resurgence of cases. A series of annexes was developed to help guide countries through adjusting various public health measures in different contexts. Furthermore, WHO has also published a surveillance protocol that can be implemented in facilities where cases of COVID-19 have been reported among health workers and a management guidance for the prevention of COVID-19 among health workers. Looking at the international labour standards ILO developed general guidance and information to employers on how to prevent the spread of COVID-19 in the workplace, and to enable workers to return to work safely while keeping the risk of contamination as low as possible. The guideline also provides ideas on how to protect workers' mental well-being during the pandemic.

#### Personal Protective Equipment (PPE)

To ensure minimal risk of infection when treating patients with COVID-19, the CDC recommends the use of personal protective equipment including a gown, gloves, and either an N95 respirator plus a face shield/goggles or a powered, air-purifying respirator (PAPR) for health care workers.

Department of Health and Family Welfare, Government of India has published detailed guidelines to ensure safety of Health workers on 20th April 2020. It has given recommendations in various settings such as Point of Entry, Hospital Setting (Out Patient Department, In-patient Services, Emergency Department, Pre-hospital - Ambulance Services, Other Supportive/ Ancillary Services), Health Workers in Community Setting, Quarantine facility and Home Quarantine. Components of PPE are goggles, face-shield, mask, gloves, coverall/gowns (with or without aprons), head cover and shoe cover.

**Face shield and goggles:** Protection of the mucous membranes of the eyes/ nose/mouth by using face shields/goggles is an integral part of standard & contact precautions. The flexible frame of goggles should provide good seal with the skin of the face, covering the eyes & the surrounding areas & even accommodating for prescription glasses.



**Masks:** The droplet precautions/airborne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19/performing aerosol generating procedures.

Two types of masks are recommended for various categories of personnel working in hospital or community settings, depending upon the work environment:

### 1. Triple layer medical mask 2. N-95 Respirator mask

A triple layer medical mask is a disposable mask, fluid-resistant, provide protection to the wearer from droplets of infectious material emitted during coughing/ sneezing/ talking.

**N-95 Respirator mask:** An N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit. If correctly worn, the filtration capacity of these masks exceeds those of triple layer medical masks. Since these provide a much tighter air seal than triple layer medical masks, they are designed to protect the wearer from inhaling airborne particles.

**Gloves:** Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine. There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Nonpowdered gloves are preferred to powdered gloves.

**Coverall/Gowns:** Coverall/gowns are designed to protect torso of healthcare providers from exposure to virus. Although coveralls typically provide 360-degree protection because they are designed to cover the whole body, including back and lower legs and sometimes head and feet as well, the design of medical/isolation gowns do not provide continuous whole-body protection (e.g., possible openings in the back, coverage to the mid-calf only). By using appropriate protective clothing, it is possible to create a barrier to eliminate or reduce contact and droplet exposure, both known to transmit COVID-19, thus protecting healthcare workers working in close proximity (within 1 meter) of suspect/confirmed COVID-19 cases or their secretions. Coveralls and gowns are deemed equally acceptable. Gowns are considerably easier to put on and for removal. An apron can also be worn over the gown for the entire time the health worker is in the treatment area.

**Shoe covers:** Shoe covers should be made up of impermeable fabric to be used over shoes to facilitate personal protection and decontamination.

**Head covers:** Coveralls usually cover the head. Those using gowns, should use a head cover that covers the head and neck while providing clinical care for patients. Hair and hair extensions should fit inside the head cover.

It should be remembered that PPEs are not alternative to basic preventive public health measures such as hand hygiene, respiratory etiquettes which must be followed at all times. Everyone should always (if possible) maintain a distance of at least 1 meter from contacts/ suspect/ confirmed COVID-19 cases.

### Care for Healthcare workers

It is obvious that availability of high quality effective personal protective equipment in sufficient quantity is very essential for frontline healthcare workers. Appropriately designed personal protective equipment and availability of modern equipment are basic essentials for productive work. It has been reported from Wuhan that the COVID protective gear was so cumbersome and expensive that healthcare workers were forced to use adult diapers during their shift so that they do not have to take off the PPE.



The development and implementation of mental health assessment, support, treatment, and services are crucial and pressing goals for the health response to the 2019-nCoV outbreak (Lancet March 2020).

Our health care set ups in the state sector are perpetually saddled with manpower shortage and perceived lack of support from the state. The new trend of outsourcing / on contract workers in various industries has been extended to healthcare not only in private industry but also in government sector. The cost savings come at a tremendous cost in terms of quality of manpower and consequently the quality of care. There is strong need to improve the monetary compensation and working conditions of staff working in health facilities.

Besides respectable and attractive salaries, proper on campus accommodation, timely promotions, non-monetary recognition are essential system changes are required. Every large hospital should have a dedicated and qualified occupational health professional looking after occupational health of healthcare workers. Occupational health of health care workers is not yet a matter of priority for stakeholders. This has resulted in increased risk and decreasing attraction for career in medicine. The increase in awareness about personal protection, availability of sufficient PPE, proper preparedness and response would play an important role in lowering the risk of infection for healthcare workers in the immediate aftermath of COVID 19 pandemic.



Health and safety protections at the workplace, and benefits associated with being part of the COVID-19 response, should be equally available to all health and essential workers engaged in the response, irrespective of the terms of their contract (permanent or temporary), whether they work in the formal or informal sector, and how long they have been in post. Given our huge population and shortage of healthcare workers, the situation needs to be addressed by improving working conditions and occupational health of healthcare workers, innovative human resource policies and structural reforms. Health departments should regularly report infected and dead health workers along with total Covid 19 infections and deaths. Each incident of health worker infected should be investigated and reasons for the same should be immediately fixed. Private employers, also have a responsibility to secure just and favourable conditions at work for their health care workers.


**This is essential for a healthy India, today and tomorrow.**

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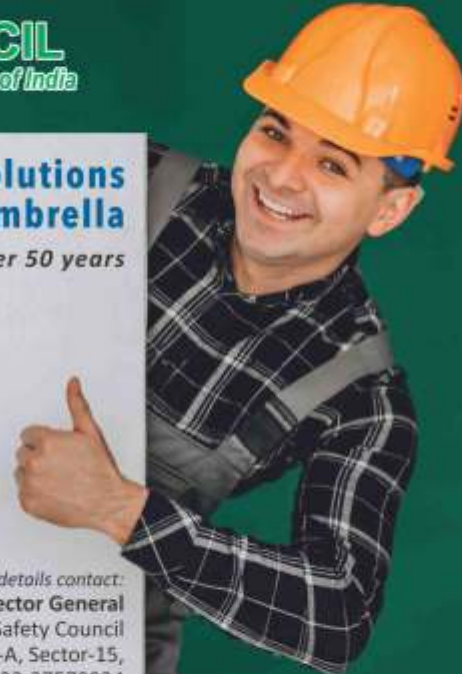
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